IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

UNILOC 2017 LLC, *Plaintiff,* v. GOOGLE LLC, *Defendant.*	§ § § § § § § §	Case No. 2:18-CV-00497-JRG-RSP

CLAIM CONSTRUCTION
MEMORANDUM AND ORDER

On January 6, 2020, the Court held a hearing to determine the proper construction of the disputed claim terms within United States Patent No. 6,329,934 ("the '934 Patent"). Having reviewed the arguments made by the parties at the hearing and in their claim construction briefing (Dkt. Nos. 147, 155 & 159), having considered the intrinsic evidence, and having made subsidiary factual findings about the extrinsic evidence, the Court hereby issues this Claim Construction Memorandum and Order. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc); *see also Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015).

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I. BACKGROUND

Plaintiff Uniloc 2017 LLC ("Plaintiff" or "Uniloc") alleges that Defendant Google LLC ("Defendant" or "Google") infringes United States Patents No. 6,329,934 ("the '934 Patent").

Shortly before the start of the January 6, 2020 hearing, the Court provided the parties with preliminary constructions with the aim of focusing the parties' arguments and facilitating discussion. Those preliminary constructions are noted below within the discussion for each term.

II. APPLICABLE LAW

A. Claim Construction

This Court's claim construction analysis is guided by the Federal Circuit's decision in *Phillips v. AWH Corporation*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). In *Phillips*, the Federal Circuit reiterated that "the claims of a patent define the invention to which the patentee is entitled the right to exclude." *Id.* at 1312. The starting point in construing such claims is their ordinary and customary meaning, which "is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Id.* at 1312–13.

However, *Phillips* made clear that "the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id.* at 1313. For this reason, the specification is often 'the single best guide to the meaning of a disputed term.'" *Id*. at 1315 (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979–81 (Fed.Cir.1995) (en banc), *aff'd,* 517 U.S. 370 (1996)) (internal quotation marks omitted). However, it is the claims, not the specification, which set forth the limits of the patentee's invention. *Id.* at 1312. Thus, "it is improper to read limitations from a preferred embodiment described in the specification—even if

it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited." *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004). Other asserted or unasserted claims can also aid in determining a claim's meaning. *See, e.g.*, *Phillips*, 415 F.3d at 1314 (explaining that use of "steel baffles" and "baffles" implied that "baffles" did not inherently refer to objects made of steel).

The prosecution history also plays an important role in claim interpretation as intrinsic evidence of how the U.S. Patent and Trademark Office ("PTO") and the inventor understood the patent. *Id.* at 1317; *see also Aylus Networks, Inc. v. Apple Inc.*, 856 F.3d 1353, 1361 (Fed. Cir. 2017) (applying this principle in the context of *inter partes* review proceedings); *Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1350 (Fed. Cir. 2004) (noting that "a patentee's statements during prosecution, whether relied on by the examiner or not, are relevant to claim interpretation"). However, "because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes." *Id.* at 1318, *see also Athletic Alternatives, Inc. v. Prince Mfg.*, 73 F.3d 1573, 1580 (Fed. Cir. 1996) (noting that ambiguous prosecution history may be "unhelpful as an interpretive resource").

Additionally, courts may rely on extrinsic evidence such as "expert and inventor testimony, dictionaries, and learned treatises." *Id.* at 1317. As the Supreme Court recently explained:

> In some cases . . . the district court will need to look beyond the patent's intrinsic evidence . . . to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period.

Teva Pharm. USA, Inc. v. Sandoz, Inc., 135 S. Ct. 831, 841 (2015). However, the Federal Circuit has emphasized that such extrinsic evidence is subordinate to intrinsic evidence. *Phillips*, 415 F.3d at 1317 ("[W]hile extrinsic evidence can shed useful light on the relevant art, we have explained

that it is less significant than the intrinsic record in determining the legally operative meaning of claim language." (internal quotation marks omitted)).

B. 35 U.S.C. § 112(6) (pre-AIA) / § 112(f) (AIA)[1]

A patent claim may be expressed using functional language. *See* 35 U.S.C. § 112, ¶ 6; *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347–49 & n.3 (Fed. Cir. 2015) (en banc in relevant portion). Section 112, Paragraph 6, provides that a structure may be claimed as a "means . . . for performing a specified function" and that an act may be claimed as a "step for performing a specified function." *Masco Corp. v. United States*, 303 F.3d 1316, 1326 (Fed. Cir. 2002).

But § 112, ¶ 6 does not apply to all functional claim language. There is a rebuttable presumption that § 112, ¶ 6 applies when the claim language includes "means" or "step for" terms and that it does not apply in the absence of those terms. *Masco Corp.*, 303 F.3d at 1326; *Williamson*, 792 F.3d at 1348. The presumption stands or falls according to whether one of ordinary skill in the art would understand the claim with the functional language, in the context of the entire specification, to denote sufficiently definite structure or acts for performing the function. *See Media Rights Techs., Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1372 (Fed. Cir. 2015) (stating that § 112, ¶ 6 does not apply when "the claim language, read in light of the specification, recites sufficiently definite structure" (quotation marks omitted) (citing *Williamson*, 792 F.3d at 1349; *Robert Bosch, LLC v. Snap-On Inc.*, 769 F.3d 1094, 1099 (Fed. Cir. 2014))); *Williamson*, 792 F.3d at 1349 (stating that § 112, ¶ 6 does not apply when "the words of the claim are understood by persons of ordinary skill in the art to have sufficiently definite meaning as the name for structure"); *Masco Corp.*, 303 F.3d at 1326 (stating that § 112, ¶ 6 does not apply when the

[1] Because the application resulting in the '934 Patent was filed before the effective date of the America Invents Act ("AIA"), the Court refers to the pre-AIA version of § 112.

claim includes an "act" corresponding to "how the function is performed"); *Personalized Media Communications, L.L.C. v. International Trade Commission*, 161 F.3d 696, 704 (Fed. Cir. 1998) (stating that § 112, ¶ 6 does not apply when the claim includes "sufficient structure, material, or acts within the claim itself to perform entirely the recited function . . . even if the claim uses the term 'means.'") (quotation marks and citation omitted).

When it applies, § 112, ¶ 6 limits the scope of the functional term "to only the structure, materials, or acts described in the specification as corresponding to the claimed function and equivalents thereof." *Williamson*, 792 F.3d at 1347. Construing a means-plus-function limitation involves multiple steps. "The first step . . . is a determination of the function of the means-plus-function limitation." *Medtronic, Inc. v. Advanced Cardiovascular Sys., Inc.*, 248 F.3d 1303, 1311 (Fed. Cir. 2001). "[T]he next step is to determine the corresponding structure disclosed in the specification and equivalents thereof." *Id.* A "structure disclosed in the specification is 'corresponding' structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim." *Id.* The focus of the "corresponding structure" inquiry is not merely whether a structure is capable of performing the recited function, but rather whether the corresponding structure is "clearly linked or associated with the [recited] function." *Id.* The corresponding structure "must include all structure that actually performs the recited function." *Default Proof Credit Card Sys. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1298 (Fed. Cir. 2005). However, § 112, ¶ 6 does not permit "incorporation of structure from the written description beyond that necessary to perform the claimed function." *Micro Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999).

For § 112, ¶ 6 limitations implemented by a programmed general purpose computer or microprocessor, the corresponding structure described in the patent specification must include an

algorithm for performing the function. *WMS Gaming Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999). The corresponding structure is not a general purpose computer but rather the special purpose computer programmed to perform the disclosed algorithm. *Aristocrat Techs. Austl. Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008).

C. Definiteness Under 35 U.S.C. § 112, ¶ 2 (pre-AIA) / § 112(b) (AIA) [2]

Patent claims must particularly point out and distinctly claim the subject matter regarded as the invention. 35 U.S.C. § 112, ¶ 2. A claim, when viewed in light of the intrinsic evidence, must "inform those skilled in the art about the scope of the invention with reasonable certainty." *Nautilus Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014). If it does not, the claim fails § 112, ¶ 2 and is therefore invalid as indefinite. *Id.* at 901. Whether a claim is indefinite is determined from the perspective of one of ordinary skill in the art as of the time the application for the patent was filed. *Id.* at 908. As it is a challenge to the validity of a patent, the failure of any claim in suit to comply with § 112 must be shown by clear and convincing evidence. *Id.* at 912 n.10. "[I]ndefiniteness is a question of law and in effect part of claim construction." *ePlus, Inc. v. Lawson Software, Inc.*, 700 F.3d 509, 517 (Fed. Cir. 2012).

When a term of degree is used in a claim, "the court must determine whether the patent provides some standard for measuring that degree." *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1378 (Fed. Cir. 2015) (quotation marks omitted). Likewise, when a subjective term is used in a claim, "the court must determine whether the patent's specification supplies some standard for measuring the scope of the [term]." *Datamize, LLC v. Plumtree Software, Inc.*, 417

[2] Because the application resulting in the '934 Patent was filed before the effective date of the America Invents Act ("AIA"), the Court refers to the pre-AIA version of § 112.

F.3d 1342, 1351 (Fed. Cir. 2005); *accord Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014) (citing *Datamize*, 417 F.3d at 1351).

III. THE PARTIES' STIPULATED TERMS

The parties agreed to the constructions of the following terms/phrases in their December 27, 2019 P.R. 4-5(d) Joint Claim Construction Chart.

Claim Term/Phrase	**Agreed Construction**
"complementary coding (CCOD)" (claims 1, 3)	"carrying out one or more coding steps, each of which is a complement of a specific decoding step which has been carried out by the partial decoder"
"coded modified data (CMD)" (claims 1, 3)	"modified partially decoded data that has been coded by complementary coding"
"coded data" (claims 1, 3)	Plain and ordinary meaning
"pixels" (claims 1, 3)	Plain and ordinary meaning
"modified partially decoded data (MPDD)" (claims 1, 3)	"altered blocks of prediction error pixels"
"modifying [(MOD)] the blocks of prediction-error pixels so as to obtain modified partially decoded data (MPDD)" (claims 1, 3)	No construction required apart from applying the proper construction of "blocks of prediction-error pixels" and the agreed construction of "modified partially decoded data (MPDD)"

(Dkt. No. 161-1 at 1-2).[3] In view of the parties' agreement on the proper construction of the identified terms, the Court hereby **ADOPTS** the parties' agreed constructions.

[3] Citations to the parties' filings are to the filing's number in the docket (Dkt. No.) and pin cites are to the page numbers assigned through ECF.

IV. CONSTRUCTION OF DISPUTED TERMS IN THE '934 PATENT

The '934 Patent, titled "Modifying Data which has been Coded," issued on December 11, 2001, and bears an earliest priority date of March 31, 1998. Plaintiff submits: "The '934 patent teaches a novel and cost-efficient way to modify data which has been encoded." Dkt. No. 147 at 19. The Abstract of the '934 Patent states:

> Data (D), which has been coded by a coder (COD) so as to obtain coded data (CD), is modified. The data (D) may be, for example, a sequence of pictures which has been coded in accordance with an MPEG standard. The data (D), which is available in a coded form, is modified in the following manner. A partial decoder (PDEC) partially decodes the coded data (CD). That is, of a series of decoding steps (Sd(1) . . . Sd(N)) which need to be carried out in order to decode the coded data (CD), the partial decoder (PDEC) carries out only a first few decoding steps (Sd(1) . . . Sd(K)), with K and N being integers and K being smaller than N. Accordingly, partially decoded data (PDD) is obtained. A data-modifier (MOD) modifies the partially decoded data (PDD). Accordingly, modified partially decoded data (MPDD) is obtained. A complementary coder (CCOD) complementary codes the modified partially decoded data (MPDD). That is, the complementary coder (CCOD) carries out one or more coding steps (Sc(K) . . . Sc(1)), each of which is a complement (C) of a specific decoding step (Sd) which has been carried out by the partial decoder (PDEC). Accordingly, coded modified data (CMD) is obtained. Since only a partial decoding is carried out, fewer circuitry will be required than if the data (D) to be modified were fully decoded. Thus, the data (D) can be modified in a cost-efficient manner.

A. "partially decoding (PDEC) the coded data (CD)" and "partially decoding the coded data (CD)"

Disputed Term	**Plaintiff's Proposal**	**Defendant's Proposal**
"partially decoding (PDEC) the coded data (CD)" • Claim 1 "partially decoding the coded data (CD)" • Claim 3	"where a series of decoding steps are needed to be carried out in order to decode the coded data, carrying out decoding steps fewer than all of the decoding steps"	"variable length decoding, inverse quantizing, and inverse discrete cosine transforming, but not motion compensating the coded data"

Shortly before the start of the January 6, 2020 hearing, the Court provided the parties with the following preliminary construction for these terms: "carrying out only a portion of the steps

that are needed to fully decode the coded data (CD)."

1. The Parties' Positions

The parties dispute whether the terms should be limited to a disclosed embodiment. Plaintiff argues that the specification explicitly defines the terms to mean "where a series of decoding steps are needed to be carried out in order to decode the coded data, carrying out decoding steps fewer than all of the decoding steps." Dkt. No. 147 at 21–22 (citing '934 Patent at 1:44–47, 2:65–3:2, Abstract). Plaintiff argues that Defendant has agreed that the specification explicitly defines the term "complementary coding." *Id.* at 22. Plaintiff further argues that Defendant's construction impermissibly imports multiple claim limitations from the specification into the claims. *Id.* at 23 (citing '934 Patent at 1:61–67). According to Plaintiff, the related disclosure pertains to an example embodiment as indicated by the word "may" and the expression "[i]n such an application." *Id.*

Defendant responds that a person of ordinary skill in the art would understand that the term "partially decoding [(PDEC)] the coded data (CD)" includes the steps of variable-length decoding, inverse quantizing, and inverse discrete cosine transforming the coded data. Dkt. No. 155 at 27. However, Defendants contend that "partially decoding [(PDEC)] the coded data (CD)" includes would not include the step of motion compensating the coded data, which would result in a full decoding. *Id*. Defendant argues that "prediction-error pixels" are "pixels" and that obtaining pixels requires reversing the encoding steps. *Id.* (citing '934 Patent at 2:7–10; Dkt. No. 147-9 at 13, 17 (Joan Mitchell, et al., MPEG Video Compression Standard at 42, 46 (1997)).

Defendant next argues that the specification mandates that "prediction-error pixels" can only be obtained by implementing three specific decoding steps. *Id.* (citing '934 Patent at 1:67–2:11). Defendant contends that because claims 1 and 3 use the term "prediction-error pixels," the partial decoding must occur between the steps of motion compensation/prediction and (inverse)

discrete cosine transformation. *Id.* at 28 (citing ’934 Patent at 4:34–37, 5:55–58, 4:37–40, 1:64–2:2, 5:3–6). Defendant also argues that Figure 3 confirms this understanding with its “prediction-error decoder PED.” *Id.* (citing ’934 Patent at Figure 3, 2:27–28, 4:2–3, 3:60, 4:16–20, 4:4–6). Finally, Defendant contends that Plaintiff construction reads out the requirement that the partial decoding “obtain block of prediction-error pixels.” *Id.*

Plaintiff replies that Defendant mischaracterizes the explicit lexicography as mere “excerpts” from the specification. Dkt. No. 159 at 11. Plaintiff also argues that Defendant asserts, without explanation, that applying the lexicography from the specification would somehow read out the requirement that the partial decoding “obtain blocks of prediction-error pixels.” *Id.* Plaintiff contends that applying the lexicography from the specification does not erase other explicit claim requirements. *Id.* at 11–12. Plaintiff also contends that Defendant impermissibly seeks to import limitations from a description of what an example embodiment “may” include. *Id.* at 12 (citing ’934 Patent at 1:61–67).

2. Analysis

The term “partially decoding (PDEC) the coded data (CD)” appears in asserted claim 1 of the ’934 Patent. The term “partially decoding the coded data (CD)” appears in asserted claim 3 of the ’934 Patent. The Court finds that the terms are used consistently in the claims and are intended to have the same general meaning in each claim. The Court agrees with Plaintiff that the intrinsic evidence indicates that the terms should not be limited to one of the disclosed embodiments. The specification discloses at least two embodiments, which are shown in Figure 1 and Figure 3. The specification states that Figure 1 “is a conceptual diagram *illustrating basic features of the invention* as claimed in claim 1” and that Figure 3 “is a block diagram of an MPEG-video modifier in accordance with the invention.” ’934 Patent at 2:23–28. The specification further states the

following related to the embodiment disclosed in Figure 1:

> *In accordance with the invention*, data which has been coded is modified in the following manner. The data which has been coded is decoded only partially. That is, *only a portion of the steps which are needed to fully decode the data, is carried out*.

'934 Patent at 1:43–47 (emphasis added). The specification also states:

> A partial decoder PDEC partially decodes the coded data CD. That is, of *a series of decoding steps Sd(l) . . . Sd(N) which need to be carried out in order to decode the coded data CD*, the partial decoder PDEC carries out only a first few decoding steps Sd(l) . . . Sd(K), with K and N being integers and K being smaller than N.

'934 at Abstract (emphasis added). The specification further states:

> *FIG. 1 illustrates basic features of the invention* in full lines. Data D, which has been coded by a coder COD so as to obtain coded data CD, is modified in the following manner. *A partial decoder PDEC partially decodes the coded data CD. That is, of a series of decoding steps Sd(1) . . . Sd(N) which need to be carried out in order to decode the coded data CD, the partial decoder PDEC carries out only a first few decoding steps Sd(1) . . . Sd(K), with K and N being integers and K being smaller than N.*

'934 at 2:61–3:2 (emphasis added). Thus, the specification indicates that a "basic feature[] of the invention as claimed in claim 1" is "partially decoding (PDEC) the coded data," which means "carrying out only a portion of the steps that are needed to fully decode the coded data (CD)."

The Court rejects Defendant's construction because it commits the "cardinal sin" of reading in limitations from an examplary embodiment described in the specification. *See Phillips*, 415 F.3d at 1320; *see also, e.g.*, *GE Lighting Sols., LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014); *Decisioning.com, Inc. v. Federated Dep't Stores, Inc.*, 527 F.3d 1300, 1314 (Fed. Cir. 2008); *Comput. Docking Station Corp. v. Dell, Inc.*, 519 F.3d 1366, 1374 (Fed. Cir. 2008); *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004). Specifically, Defendant's construction improperly reads in the limitations of a "variable length decoding, inverse quantizing, and inverse discrete cosine transforming, but not motion compensating the coded data." Defendant's construction relates to Figure 3, and the specification indicates that this

is a description of an exemplary embodiment:

> It has already been mentioned that the invention *may* be applied to edit a sequence of pictures which has been coded in accordance with an MPEG standard. *In such an application*, the partial decoding *may comprise* variable length decoding, inverse quantization and inverse discrete cosine transformation, but not motion compensation which requires a relatively large memory.

'934 Patent at 1:61–67 (emphasis added). Defendant does not argue that anything in the prosecution history would indicate that the claims should be limited to this exemplary embodiment. Instead, Defendant argues, without explanation, that applying the lexicography from the specification would somehow "read out the requirement that the partial decoding 'obtain blocks of prediction-error pixels.'" Dkt. No. 147 at 28–29.

3. Court's Construction

For the reasons set forth above, the Court construes the terms **"partially decoding (PDEC) the coded data (CD)"** and **"partially decoding the coded data (CD)"** to mean **"carrying out only a portion of the steps that are needed to fully decode the coded data (CD)."**

B. "blocks of prediction-error pixels"

Disputed Term	Plaintiff's Proposal	Defendant's Proposal
"blocks of prediction-error pixels" • Claims 1 and 3	"pixel data obtained without decoding motion compensation"	"pixel data derived from variable length decoding, inverse quantization, and inverse discrete cosine transformation, but not motion compensation"

Shortly before the start of the January 6, 2020 hearing, the Court provided the parties with the following preliminary construction for this term: "pixel data obtained without decoding motion compensation."

1. The Parties' Positions

The parties agree that the partially-decoded "blocks of prediction-error pixels" should be defined as encompassing certain "pixel data" that excludes "motion compensation." The parties

dispute whether the term should be limited to a disclosed embodiment. Plaintiff argues that the specification distinguishes its teachings from certain less efficient techniques, which are further described in the context of differentiating between blocks of prediction-error pixels and blocks of error-compensating pixels. Dkt. No. 147 at 24 (citing '934 Patent at 1:38–40, 1:66–2:2, 5:3–6). Plaintiff contends that the blocks of prediction-error pixels may be modified and coded in a manner that reuses motion vectors of the original data that had been partially decoded. *Id.* (citing '934 Patent at 2:2–11). Plaintiff further argues that Defendant's construction is an attempt to import a series of affirmative steps from an examplary embodiment of the specification. *Id.*

Defendant responds by referring to its arguments for the previous term. Dkt. No. 155 at 29. Defendant further contends that Plaintiff's construction ignores that the term "prediction-error" specifically describes "pixels," as opposed to another unit of data. *Id.* According to Defendant, the intrinsic and extrinsic evidence show that prediction-error pixels can only be obtained through variable-length decoding, inverse quantization, and inverse discrete cosine transform. *Id.* Defendant argues that omitting these steps would result in spatial-frequency coefficients or some other non-pixel data unit. *Id.*

Plaintiff replies that Defendant incorrectly asserts that prediction-error pixels can only be obtained through variable-length decoding, inverse quantization, and inverse discrete cosine transform. Dkt. No. 159 at 12. Plaintiff argues that the specification explicitly refutes Defendant's assertion by the use of the word "may" in describing a relevant example embodiment. *Id.*

2. Analysis

The term "blocks of prediction-error pixels" appears in asserted claims 1 and 3 of the '934 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same general meaning in each claim. The parties agree that the partially-decoded "blocks of

prediction-error pixels" should be defined as encompassing certain "pixel data" that excludes "motion compensation." The parties dispute whether the term should be limited to a disclosed embodiment.

The disputed term is recited in the following context in claim 1: "partially decoding (PDEC) the coded data (CD) so as to obtain *blocks of prediction-error pixels.*" Similarly, claim 3 recites this term in the context of "a partial decoder (PDEC) for partially decoding the coded data (CD) so as to obtain *blocks of prediction-error pixels.*" Thus, the claim language indicates that the recited "blocks of prediction-error pixels" are obtained from partially decoding coded data (CD).

The '934 Patent distinguishes its teachings from certain less efficient techniques, including "a full MPEG decoding followed by a full MPEG coding, [which] involves a further motion estimation and compensation in addition to the motion estimation and compensation which have been carried out at the coding end." '934 Patent at 1:38–40. This distinction is further described in the context of differentiating between *blocks of prediction-error pixels* and *blocks of error compensating pixels*. According to one embodiment, partial decoding processing that excludes "motion compensation" will result in obtaining "blocks of prediction-error pixels[,] instead of blocks of picture pixels." *Id.* at 1:66–2:2; *see also id*. at 5:3–6 ("A block of picture pixels can be obtained by adding to a block of prediction-error pixels R, a motion compensated block of picture pixels belonging to a previous image."). The blocks of prediction-error pixels may then be modified and coded in a manner that *reuses* motion vectors of the original data that had been partially decoded. *Id*. at 2:2–11. Accordingly, the Court construes the term "blocks of prediction-error pixels" to mean "pixel data obtained without decoding motion compensation."

The Court rejects Defendant's construction because it improperly imports the limitations from the specification discussed with the previous term. Specifically, Defendant proposes

construing "blocks of prediction-error pixels" to mean "pixel data derived from variable length decoding, inverse quantization, and inverse discrete cosine transformation, but not motion compensation." As discussed above, Defendant's construction would incorrectly limit the claims to an exemplary embodiment. Defendant again asserts that "prediction-error pixels can only be obtained through variable-length decoding, inverse quantization and inverse discrete cosine transform." Dkt. No. 147 at 29. The Court disagrees with Defendant's unsupported argument. Finally, in reaching its conclusion, the Court has considered the extrinsic evidence submitted by the parties, and given it its proper weight in light of the intrinsic evidence.

3. Court's Construction

For the reasons set forth above, the Court construes the term **"blocks of prediction-error pixels"** to mean **"pixel data obtained without decoding motion compensation."**

C. Means-plus-function arguments for Claim 3

Disputed Term	**Plaintiff's Proposal**	**Defendant's Proposal**
"partial decoder (PDEC) for partially decoding the coded data (CD) so as to obtain blocks of prediction-error pixels" • Claim 3	Not indefinite; not governed by 35 U.S.C. § 112(6); No separate construction needed from partially decoding (PDEC) the coded data	Governed by 35 U.S.C. § 112(6) Indefinite due to absence of corresponding structure (algorithm) in the specification under 35 U.S.C. § 112(2), 112(6). **Function:** partially decoding the coded data (CD) so as to obtain blocks of prediction-error pixels **Structure/Algorithm:** Only an incomplete structure/algorithm is disclosed for the recited function, e.g., in Figure 3.

Disputed Term	Plaintiff's Proposal	Defendant's Proposal
"complementary coder (CCOD) for complementary coding the modified partially decoded data (MPDD), so as to obtain coded modified data (CMD)" • Claim 3	Not indefinite; not governed by 35 U.S.C. § 112(6); No separate construction needed from complementary coding	Governed by 35 U.S.C. § 112(6) Indefinite due to absence of corresponding structure (algorithm) in the specification under 35 U.S.C. § 112(2), 112(6). **Function:** complementary coding the modified partially decoded data (MPDD), so as to obtain coded modified data (CMD) **Structure/Algorithm:** Only an incomplete structure/algorithm is disclosed for the recited function, e.g., in Figure 3.
"data modifier (MOD) for modifying the blocks of prediction-error pixels so as to obtain modified partially decoded data (MPDD)" • Claim 3	Not governed by 35 U.S.C. § 112, ¶6; not indefinite; no construction necessary.	Governed by 35 U.S.C. § 112(6) Indefinite due to absence of corresponding structure (algorithm) in the specification under 35 U.S.C. § 112(2), 112(6). **Function:** modifying the blocks of prediction-error pixels so as to obtain modified partially decoded data (MPDD) **Structure/Algorithm:** No clearly identified algorithm linked to the identified function

Shortly before the start of the January 6, 2020 hearing, the Court provided the parties with the following preliminary constructions for these phrases: Not governed by 35 U.S.C. § 112, ¶ 6, Plain and ordinary meaning.

1. The Parties' Positions

The parties dispute whether the disputed phrases should be governed by 35 U.S.C. § 112 ¶ 6. Plaintiff argues that none of the challenged elements are in the "means-plus-function" format and that they are presumptively not subject to Section 112(6). Dkt. No. 147 at 27, 28, 31, 33. Plaintiff contends that Defendant has not provided evidence sufficient to meet its burden of overcoming that presumption. *Id.* at 28. Plaintiff further argues that the specification describes the operations of certain example embodiments implemented by elements which have sufficient

structure to avoid overcoming the presumption that Section 112(6) does not apply. *Id.* at 27–28 (citing ’934 Patent at 1:56–60).

Regarding the phrase “partial decoder (PDEC) for partially decoding the coded data (CD) so as to obtain blocks of prediction-error pixels,” Plaintiff argues that the phrase recites certain limiting qualifiers modifying the “partial decoder” term, which has a reasonably well understood meaning in the art. *Id.* at 28. Plaintiff further contends that the specification further undermines Defendant’s challenge to the presumption that the claimed “partial decoder (PDEC) . . .” is not governed by Section 112(6). *Id.* at 28–29 (citing ’934 Patent at Abstract, 4:4–8, 4:15–28). Plaintiff argues that Defendant does not provide any evidence to support the conclusion that the term “partial decoder” acts as a generic placeholder for the word “means.” *Id.* at 29.

Regarding the phrase “complementary coder (CCOD) for complementary coding the modified partially decoded data (MPDD), so as to obtain coded modified data (CMD),” Plaintiff argues that the phrase recites certain limiting qualifiers modifying the “complementary coder” term, which has a reasonably well understood meaning in the art. *Id.* at 28. Plaintiff further contends that the specification provides a detailed description confirming that the claimed “complementary coder” would have been understood by persons of ordinary skill in the art to have sufficiently definite meaning as the name for structure. *Id.* at 28–29 (citing ’934 Patent at Abstract, 3:5–11, 3:34–37, 4:8–14, 4:29–65, 4:15–28). Plaintiff also argues that Defendant does not provide any evidence to support the conclusion that the term “complementary coder” acts as a generic placeholder for the word “means.” *Id.* at 32.

Regarding the phrase “data modifier for modifying the blocks of prediction-error pixels so as to obtain modified partially decoded data (MPDD),” Plaintiff argues that the phrase recites certain limiting qualifiers modifying the “data modifier” term, which has a reasonably well

understood meaning in the art. *Id.* at 28. Plaintiff further contends that the specification undermines Defendant's challenge to the presumption that the claimed "data modifier . . ." is not governed by Section 112(6). *Id.* at 33 (citing '934 Patent at Abstract, 1:48–50, 3:3–5, 4:22–25, 4:15–28, 5:65–7:51). Plaintiff argues that Defendant does not provide any evidence to support the conclusion that the term "data modifier" acts as a generic placeholder for the word "means." *Id.* at 32.

Defendant responds that all three phrases begin with a nonce phrase that simply restates the function to be performed. Dkt. No. 155 at 30. Defendant argues that the meaning of claim 3 would not change if the word "means" were substituted for these terms. *Id.* (citing Dkt. No. 155-2 at ¶¶ 24, 30, 37). Defendant further contends that video encoding was normally performed on general purpose computers as of the time of the alleged invention. *Id.* at 32 (citing Dkt. No. 155-2 at ¶ 22). Defendant contends that the specification does not disclose any structure for performing the claimed functions. *Id.*

Defendant also argues that the specification does not disclose an algorithm that performs the first claimed function of partially decoding coded data to obtain blocks of prediction-error pixels. *Id.* (citing Dkt. No. 155-2 at ¶¶ 25, 26, 27; citing '934 Patent at 1:44–47, 1:64–66, 2:65–3:3, 4:1–8, Figures 1 and 3). Defendant further argues that the specification does not disclose an algorithm that performs the second claimed function of claimed function of modifying blocks of prediction-error pixels to obtain modified partially decoded data. *Id.* (citing Dkt. No. 155-2 at ¶¶ 31, 32, 33, 34-36; '934 Patent at 3:3–4, 4:22–25, 7:61, 7:65, 4:1–4, 7:63–64, 8:4–11, Figures 1 and 6). Defendant also argues that the specification does not disclose an algorithm that performs the third claimed function of complementary coding modified partially decoded data to obtain coded modified data. *Id.* at 35 (citing Dkt. No. 155-2 at ¶¶ 38, 39; '934 Patent at 3:7–8, Figure 1).

Plaintiff replies that Defendant has not overcome the presumption that § 112(6) does not

govern the three elements of claim 3. Dkt. No. 159 at 12. Plaintiff argues that the Reader Declaration parrots Defendant's conclusory attorney argument that the disputed elements purportedly are "nonce" terms that do not connote any structure at all. Figure 1 at 13 (citing Dkt. No. 155-2 at ¶¶ 24, 30, 37). Plaintiff also contends that Defendant acknowledges that an examplary embodiment discloses a three-step process, but then argues that this process does not itself constitute an algorithm. *Id.* at 15. Plaintiff argues that Dr. Reader offers no opinion as to whether this examplary three-step process constitutes an algorithm for partial decoding. *Id.* (citing Dkt. No. 155-2 at ¶ 26).

2. Analysis

The disputed terms appear in asserted claim 3 of the '934 Patent. There is a rebuttable presumption that § 112 ¶ 6 does not apply because claim 3 does not recite the word "means." Therefore, the analysis proceeds in two steps. Starting with the first step, Defendant argues that all three phrases begin with a nonce phrase that simply restates the function to be performed: (1) a "partial decoder" for partially decoding; (2) a "data modifier" for modifying prediction-error pixels (*i.e.*, data); and (3) a "complementary coder" for complementary coding. Dkt. No. 155 at 30. Defendant further argues that the '934 Patent fails to disclose algorithms clearly linked to each of the claimed functions. *Id.* at 32.

The Court finds that Defendant has conflated the steps in the § 112 ¶ 6 analysis. *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1298–99 (Fed. Cir. 2014) ("Requiring traditional physical structure in software limitations lacking the term means would result in all of these limitations being construed as means-plus-function limitations and subsequently being found indefinite."); *Zeroclick, LLC v. Apple Inc.*, 891 F.3d 1003, 1007–09 (Fed. Cir. 2018) (holding that the district court erred by effectively treating "program" and "user interface code" as nonce words and

concluding in turn that the claims recited means-plus-function limitations).

Here, the terms "partial decoder," "data modifier," and "complementary coder," like "detector" in *Personalized Media Communs., L.L.C. v. ITC*, 161 F.3d 696, 704–07 (Fed. Cir. 1998), and "circuit" in *Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1319–21 (Fed. Cir. 2004), connotes sufficiently definite structure to avoid invoking § 112, ¶ 6. Regarding the term "partial decoder (PDEC)," the specification provides a description that confirms that "partial decoder" would be understood by a person of ordinary skill in the art to have sufficiently definite meaning as the name for structure. For example, the specification describes "a sequence of pictures which has been coded in accordance with an MPEG standard" and "[a] partial decoder (PDEC) [that] partially decodes the coded data (CD)" to obtain "partially decoded data (PDD)." '934 Patent at Abstract. The specification further states that in one embodiment "[t]he prediction-error decoder PED comprises an input buffer IBUF, a variable-length decoder VLD, de-quantizer DQl and an inverse discrete cosine transformer IDCTl. The prediction-error decoder DEC also comprises a motion vector decoder MVD." *Id.* at 4:4–8. These statements confirm that the word "decoder" is understood by persons of skill in the art to have sufficiently definite meaning as the name for structure. *See Zeroclick*, 891 F.3d at 1007; *Apex Inc. v. Raritan Comput., Inc.*, 325 F.3d 1364, 1372 (Fed. Cir. 2003).

In addition, the broader description of Figure 3 also discloses structural interrelationships of the elements recited in claim 3 (*e.g.*, the output of the partial decoder (PED) is provided to picture processor (PP), which carries out certain processing function(s) to provide processed blocks of prediction-error pixels (RP) to prediction-error coder (PEC)). *Id.* at 4:15–28. These example indicate that the recited "partial decoder," in the context of claim 3, would have been understood by persons of ordinary skill in the art to have sufficiently definite meaning as the name

for structure.

Regarding the term "complementary coder (CCOD)," the specification provides a description confirming that the recited "complementary coder" would be understood by a person of ordinary skill in the art to have sufficiently definite meaning as the name for structure. For example, the Abstract describes an exemplary embodiment of the complementary coder (CCOD) as follows:

> That is, the complementary coder (CCOD) carries out one or more coding steps (Sc(K) . . . Sc(l)), each of which is a complement (C) of a specific decoding step (Sd) which has been carried out by the partial decoder (PDEC). Accordingly, coded modified data (CMD) is obtained.

'934 at Abstract; *see also id*. at 3:5–11. In describing another embodiment, the specification states that "[t]he complementary coder CCOD complementary codes the modified partially decoded data MPDD with the distortion compensating data DCD added thereto. Accordingly, the coded modified data CMD is obtained." *Id.* at 3:34–37.

The specification also discloses certain structural aspects of an exemplary prediction-error coder (PEC) structure as follows:

> The prediction-error coder PEC comprises a coding-error compensator CEC, a discrete-cosine transformer DCT, a quantizer Q, a variable-length coder VLC and an output buffer OBUF. The coding-error compensator CEC comprises a subtractor SUBl, a de-quantizer DQ2, an inverse discrete cosine transformer IDCT2, a subtractor SUB2, a memory MEM, and a motion compensator MC.

Id. at 4:8–14. In addition, the broader description of Figure 3 also discloses how the various subcomponents of the coder interoperate. *See, e.g., id*. at 4:29–65. The specification further describes certain structural interrelationships of the elements recited in claim 3 (*e.g.*, the output of the partial decoder (PED) is provided to picture processor (PP), which carries out certain processing function(s) to provide processed blocks of prediction-error pixels (RP) to prediction-error coder (PEC)). *Id* at 4:15–28. These example indicate that the recited "complementary coder,"

in the context of claim 3, would be understood by a person of ordinary skill in the art to have sufficiently definite meaning as the name for structure.

Regarding the "data modifier (MOD)," the specification provides a description confirming that the recited "data modifier (MOD)" would be understood by a person of ordinary skill in the art to have sufficiently definite meaning as the name for structure. For example, the Abstract describes an exemplary embodiment as follows: "A data-modifier (MOD) modifies the partially decoded data (PDD). Accordingly, modified partially decoded data (MPDD) is obtained." *Id.* at Abstract, *see also id.* at 1:48–50, 3:3–5. In describing another embodiment, the specification states that "[t]he picture processor PP carries out a certain picture-processing function F on the blocks of prediction-error pixels R. Accordingly, processed blocks of prediction-error pixels RP are obtained." *Id.* at 4:22–25. In addition, the broader description of Figure 3 also discloses structural interrelationships recited in claim 3 (*e.g.*, the output of the partial decoder (PED) is provided to picture processor (PP), which carries out certain processing function(s) to provide processed blocks of prediction-error pixels (RP) to prediction-error coder (PEC)). *Id*. at 4:15–28.

The specification further discloses an embodiment of the picture processor (PP) in Figure 5. *See*, *e.g.*, *id*. at 5:65–7:51. As shown in Figure 5, the picture processor (PP) described in this exemplary embodiment includes various interoperating structural subcomponents, including, for example, multiple memories (MEM1 and MEM2) adders (ADD1, ADD2, and ADD3), a subtractor (SUB), motion compensators (MC1 and MC2), etc. These example indicate that the recited "data-modifier (MOD)," in the context of claim 3, would be understood by a person of ordinary skill in the art to have sufficiently definite meaning as the name for structure.

It is true that when a limitation is a means-plus-function limitation and the corresponding structure is software, there must be an algorithm for the software or else the means-plus-function

limitation will be considered indefinite unless the function can be performed by a general-purpose computer. *See Function Media, LLC v. Google, Inc.*, 708 F.3d 1310, 1318 (Fed. Cir. 2013) (holding that the corresponding disclosure for a computer-implemented means-plus-function claim is an algorithm). But that authority is not on point because that definiteness analysis is triggered only where the limitation is a means-plus-function limitation.

Defendant argues that Plaintiff only focuses on the first step of the § 112, ¶ 6 analysis and ignores the second step. Dkt. No. 147 at 31. However, the analysis does not proceed to the second step unless it fails to meet the first step. In other words, the question is not simply whether "means for" can simply be substituted for the disputed term, as Defendant suggests. The claims at issue do not use the word "means," and Defendant has failed to overcome the rebuttable presumption that the disputed terms are not means-plus-function terms governed by § 112, ¶ 6. *See Williamson*, 792 F.3d at 1348.

During the January 6, 2020 hearing, Defendant argued that the Court can only consider the claim language in the first step of the analysis, and not the intrinsic evidence. This is incorrect. The Court must consider all of the intrinsic evidence to determine if the disputed phrases would be understood by a person of ordinary skill in the art to have sufficiently definite meaning as the name for structure. *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1298 (Fed. Cir. 2014) ("The correct inquiry, when 'means' is absent from a limitation, is whether the limitation, read in light of the remaining claim language, specification, prosecution history, and relevant extrinsic evidence, has sufficiently definite structure to a person of ordinary skill in the art.")

In summary, although the presumption against § 112, ¶ 6 is no longer "strong," it is still a presumption that Defendant must affirmatively overcome. In the context of the intrinsic record for the '934 Patent, the Court finds that Defendant has not shown that the disputed phrases should be

subject to § 112, ¶ 6. Accordingly, the Court rejects Defendant's argument that the disputed phrases should be governed by § 112, ¶ 6 and finds that no further construction is required.

Having resolved the parties' dispute, no further construction is necessary. *United States Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997); *see also O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008). These phrases will be given their plain and ordinary meaning. Finally, in reaching its conclusion, the Court has considered the extrinsic evidence submitted by the parties and given it its proper weight in light of the intrinsic evidence.

3. Court's Construction

For the reasons set forth above, the disputed terms within Claim 3 of the '934 Patent are **not governed by 35 U.S.C. § 112, ¶ 6**. Consequently, Claim 3 will be given its **plain and ordinary meaning**.

V. CONCLUSION

The Court adopts the constructions set forth in this opinion for the disputed terms of the patents-in-suit. The parties are ordered to not refer to each other's claim construction positions in the presence of the jury. Likewise, in the presence of the jury, the parties are ordered to refrain from mentioning any portion of this opinion, other than the actual definitions adopted by the Court. The Court's reasoning in this order binds the testimony of any witnesses, and any reference to the claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.

SIGNED this 4th day of February, 2020.

ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE